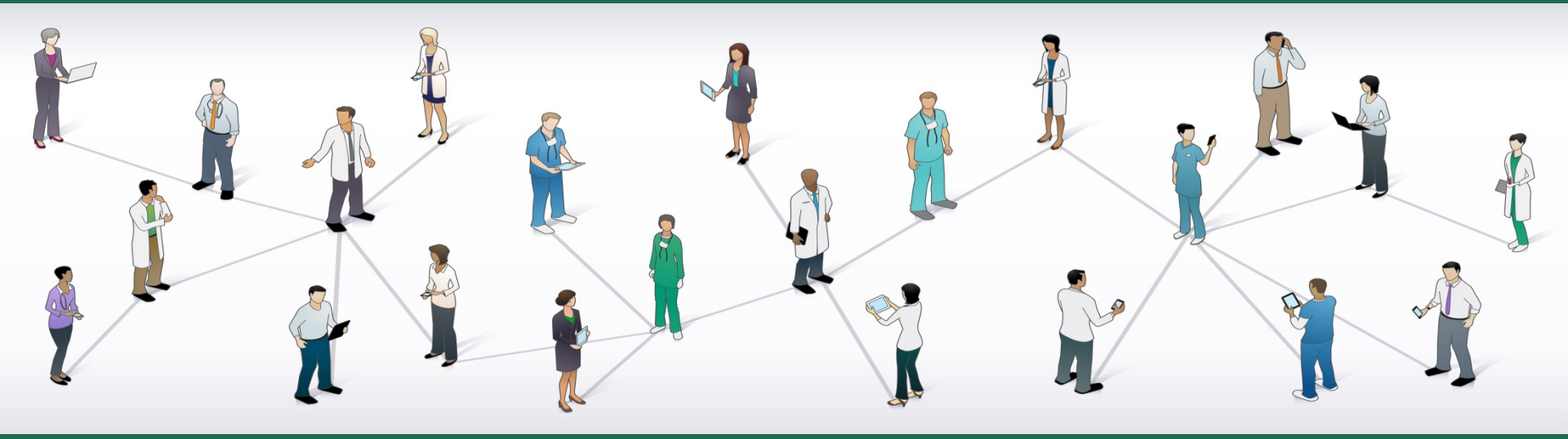
EMR Integration and Genomic Medicine Implementation



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Current and Planned eMERGE Efforts

- Pharmacogenomics integration into EHR
- Infobutton project
- Actionable CDS
- Use of PHRs/Patient portals for education

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Clinical Decision Support

Reminders/order sets

- Obtain genetic test

Interpretations

- Explanation of meaning of results
- May also include information about the science

Alerts/ Recommendations

- Prescribe alternative therapy

Challenges of CDS for Genomic Medicine

- Data from EHR
  - Standards
  - Structure
- Distribution
- Accuracy across cases
- Impact on outcomes
- **Reinterpretation, revision and maintenance**
  - **Reinterpretation of genomic analyses, patient data**
  - **CDS revision and versioning**
- **Implementation challenges**

Implementation Issues

Reminders/order sets

- Automatic
- Clinician understands test and results
- Chooses whether to do it
- Key issue: Workflow

Interpretations

- Automatic or on-demand
- Provides explanation for clinicians who are unfamiliar with data
- Key Issue: Ease of access and use

Alerts/ Recommendations

- Automatic or on-demand
- Clinician may be knowledgeable
- Key issues: Workflow, ease of use, consequences

Portals and PHRs

- Portal use increasing because of meaningful use requirements
  - Tethered PHR
- PHRs may increase too, but not currently used much
- Information complexity a challenge for both patients and physicians
- Cannot be the only source of information

Conclusion

- CDS and patient portals for non-genomic medicine will become a routine part of care
- Can learn from non-genomic CDS implementation approaches
- Need for clinician education and complexity of information is a challenge for automation
- Plan for regular review, reinterpretation and revision at multiple levels– genomic interpretation, patient data, CDS